



Survivability Symposium

“Enhancing Aircraft Survivability - A Vulnerability Perspective”

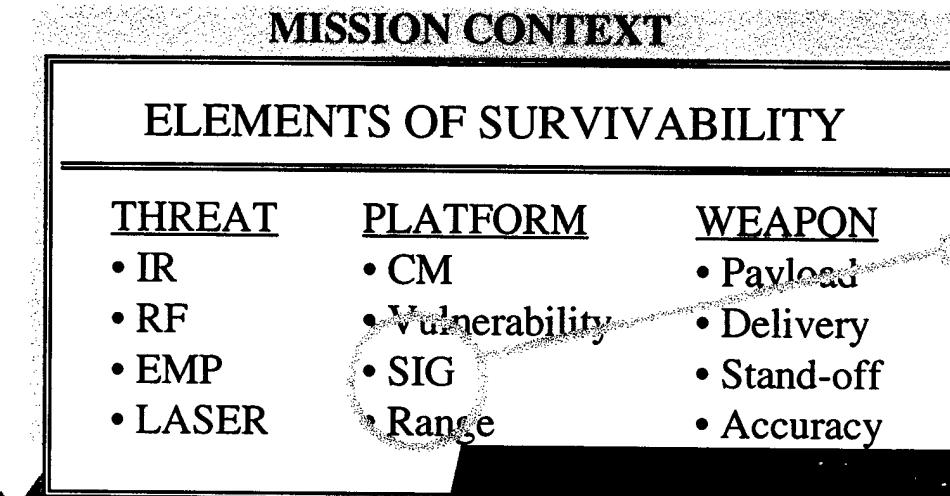
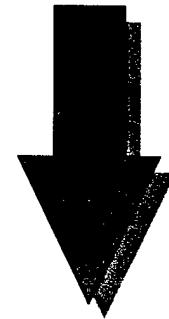


Rear Admiral J. M. Johnson
Head, Aviation Plans and Requirements

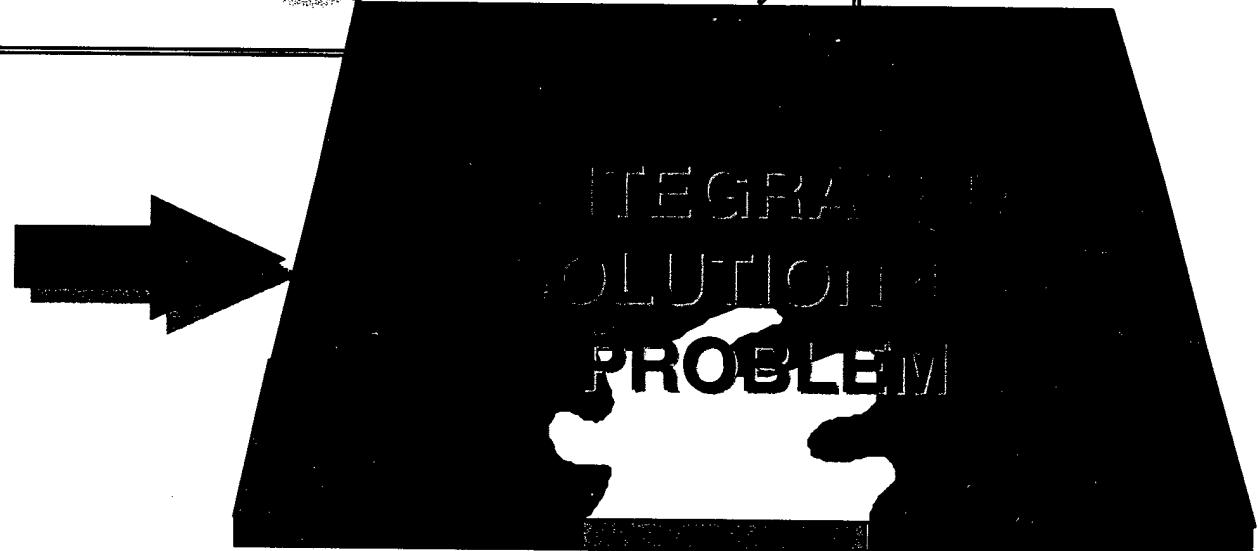
Survivability Integration is Necessary to Obtain Optimal Solution



**CUSTOMER
PROBLEM
TO SOLVE**



**SURVIVABILITY
INTEGRATION
(418000D)**



Survivability Today



Recognized As Design Discipline for Over 20 Years

- Still Means Different Things to Different People

- Vulnerability Reduction -
- Hardness - Armor
- Defense Suppression
- Countermeasures
- Situation Awareness - Tactics - Speed
- Stealth

**It's all this and More
But With Balance !**

Survivability

Susceptibility

Vulnerability

It a matter of System Engineering

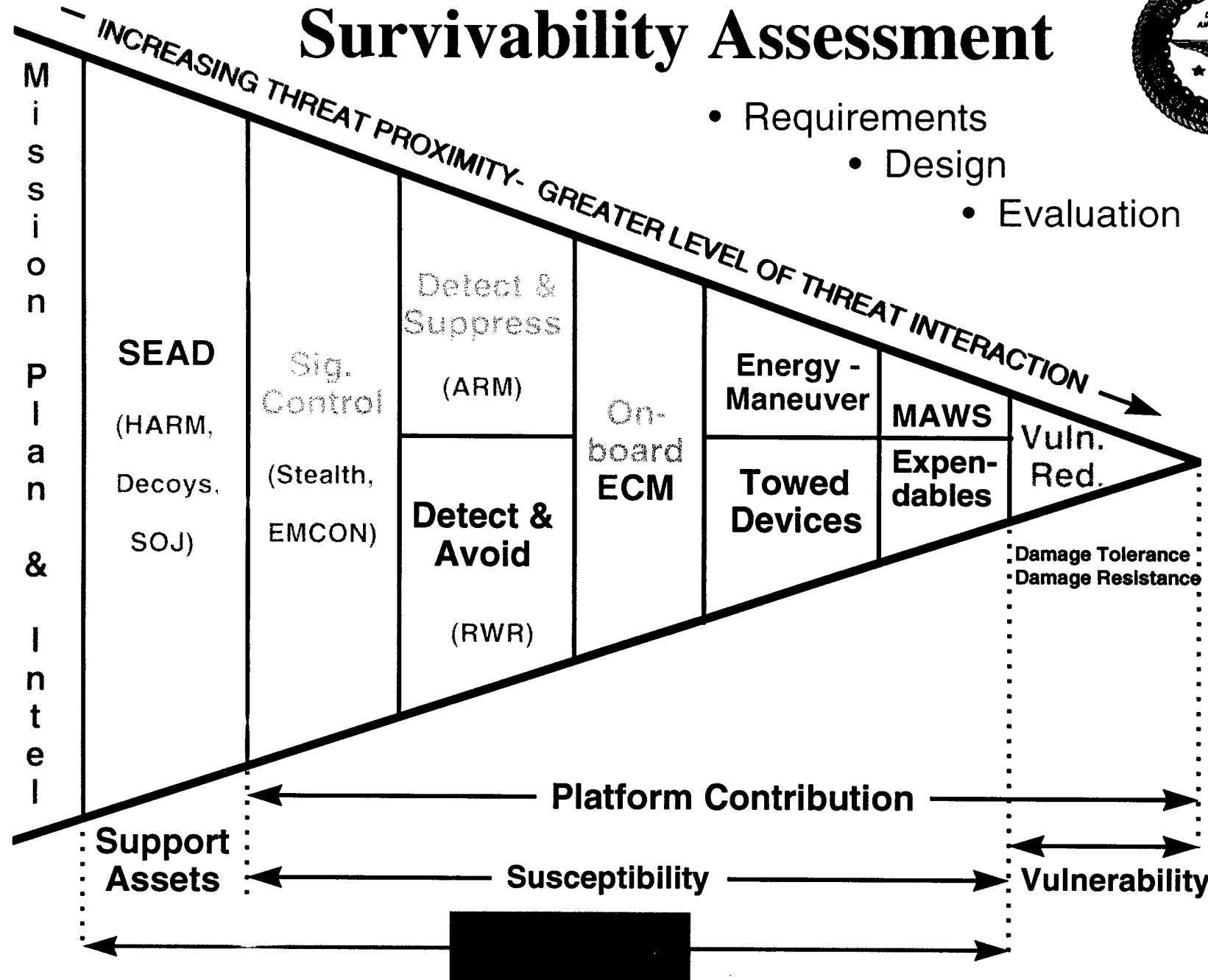


- Among the Susceptibility Reduction Features - LO, ECM, etc.
- Among the Vulnerability Reduction Features - Fire/Explosion, Robust Structures, etc.
- Contribution of Performance, Tactics
- Seek Best Survivability Across the Board, for Least Penalty
 - Weight; Cost; Supportability
- Measurable and Validated Through Assessments (Analysis & Test)



Survivability Assessment

- Requirements
- Design
- Evaluation

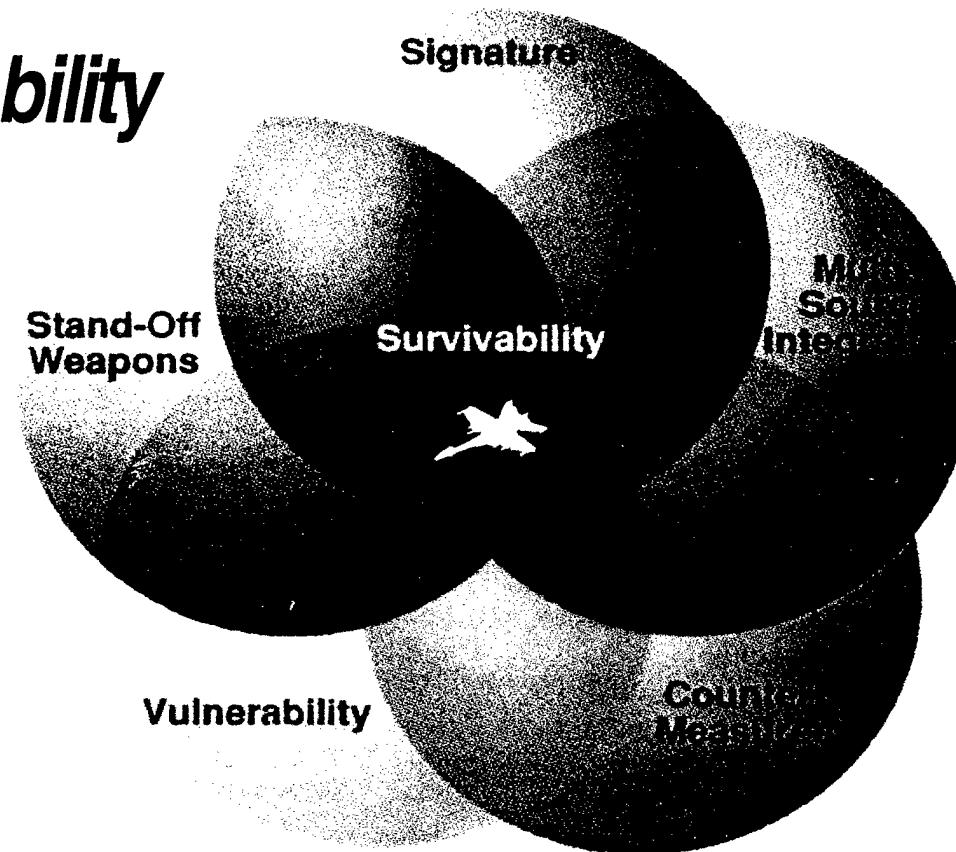




F/A-18E/F

An Integrated Approach to Survivability

Affordability

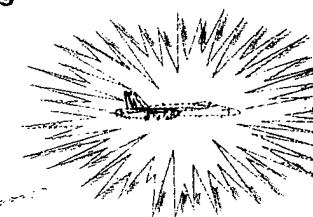


F/A-18E/F Survivability

- Reduced Vulnerable Area
- Dry Bay Fire Suppression
- Redundant Systems



Signatures



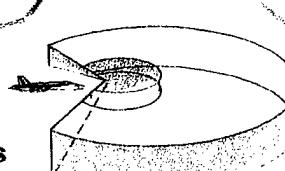
- Reduced Signature
- Improved J/S Ratio
- Expanded Operating Domain

Weapon and Performance Envelope

Altitude

Mach

EFFECTIVENESS ASSESSMENT



Countermeasures



- Range/Payload/Bringback
- Weapon Flexibility
- Force Multiplier

- Cockpit Displays
- Software Development
- MSI Carry Over

- IDECM
 - RFCM
 - CMWS
 - Expendables

Hornet Capability Spans the Mission Spectrum



F-14

F/A-18

A-6

Maritime
Air
Superiority

Air
Combat
Fighter

Recce

Fighter
Escort

Close
Air
Support

Air
Defense
Suppression

Day/Night
Strike

All
Weather
Attack

